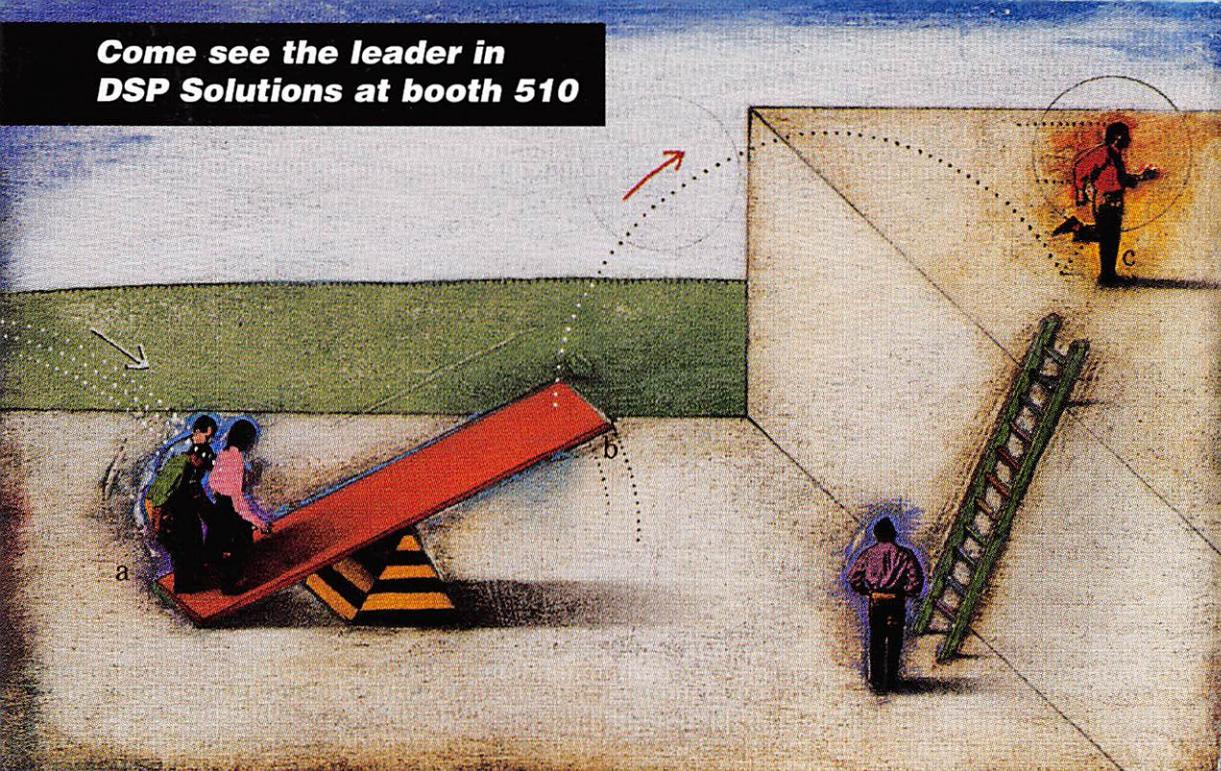


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Use of Kalman Filters in Digital Control - Sy C. Meshkat (DSP Control Group, Inc.)

DSP-Based Open Architecture Six Axis Force Control Robot - George Anwar (Integrated Motions)

Optimized DSP Solutions for Brushless Motor Control - Matthew Finnie (Analog Devices)

Fuzzy Logic Development Tools to Do Motor Control - Constantine Von Altroch (Inform Software)

308 Newly Adopted and Emerging Speech Coding Standards: A Status Report

Chair: Jason Macres (DSP Software Engineering)

Three important standards committees are evaluating voice coding technology for next-generation standards. CCITT, GSM, and TIA subcommittees will complete testing on the finalists for 4 kb/s to 8 kb/s voice-coding standards. Representatives from the committees will report on the testing procedure and results, and on the vocoder technology. Attendees of this session will leave with an in-depth understanding of the system requirements and underlying technology inherent in each of these next-generation vocoder application areas.

Complexity Evaluation of the Full-Rate ANT and Motorola CODECs for the Phase III Selection of the Half-Rate Codec - Chris Cavigioli (Analog Devices and European Telecommunications Standards Institute (ETSI))

ITU Standardization Process to Define a 8 kb/s Speech Codec with Wireline Quality - Gerhard Schröder (Deutsche Bundespost Telekom Forschungs- und Technologiezentrum)

The New Government Standard 2400 bps Speech Coder - V.C. Welch, M.A. Kohler, and T.E. Tremain (U.S. Department of Defense)

309 Audio Engineering Applications of Digital Signal Processing (Session sponsored by the Audio Engineering Society)

Chair: Richard Cabot, President, AES (Audio Precision, Inc.)

Audio has long been amenable to digital signal processing techniques. Numerous DSP products have appeared commercially, the most notable in the consumer field being the compact disk, digital audio tape, and digital reverberators. Professional audio applications have seen the emergence of digital surround sound for theaters, recording studio digital editing systems, restoration of old recordings with digital signal enhancement, etc. The Audio Engineering Society has frequently been the forum for introducing these technological advances. Now some of these technologies are making their way into new applications areas such as multimedia on computers, home cable systems, automobiles, artificial reality systems, etc. Several presenters from the AES will discuss their work in digital signal processing for high-quality audio applications. It is hoped that this session will expose the attendee to information sources of which he or she may have previously been unaware.

DSP Chips for Audio-Related Applications - John Strawn (S Systems)

High Quality Multimedia Applications - Toby Dunn (Digidesign)

AC3: Flexible Perceptual Code Four Audio Transmission and Storage - Brian Link (Dolby Laboratories)

Perceptual Audio Coding - Karl-Heinz Brandenburg (Fraunhofer Institute für Integrierte Schaltungen)

Music Synthesis - Dana Massie (E-mu Systems)

DSP in Digital Audio Workstation Environments - Andy Moorer (Sonic Solutions)

310 Image, Video, and Wireless Communications Applications

(Session sponsored by the VLSI for Signal Processing Technical Committee of the IEEE Signal Processing Society)

Chair: Vason Srinivasan (Data Flow Systems)

Implementations for the domains of image, video, and radar processing challenge DSP system designers because of the vast amounts of data involved. This session examines a spectrum of approaches to the design of systems for these applications, from DSP circuits, through systems constructed from fine grain array processors, to techniques aimed at developing image processing algorithms on high performance computers.

Key Components in the Design of Image and Video Compression ICs - Konstantinos Konstantinides (Hewlett Packard Laboratories)

Digital Signal Processing Circuits for Wireless Communications of Audio, Video and Data: Design Techniques and Architectures - Steve Molloy, Charles Chien, Brian Schoner, Phil Duncan, Etan Cohen, and Rajeev Jain (University of California at Los Angeles)

Cost-Effective Image and Signal Processing Using Fine Grain Array Processors - R.S. Bajwa, P. Keltcher, C. Nagendra, R.M. Owens, and M.J. Irwin (Pennsylvania State University)

VLSI Data Compressor Design for High-Resolution Imaging Radar - Wai-Chi Fang (California Institute of Technology, Jet Propulsion Laboratory)

Software Tools for the Development of Image Processing Applications on High-Performance Computers - Leah H. Jamieson, Edward J. Delp, Ashfaq Khokhar, and Jamshed Patel (Purdue University)

311 Design and Programming Techniques for DSP Applications

(Session sponsored by the VLSI for Signal Processing Technical Committee of the IEEE Signal Processing Society)

Chair: Kung Yao (University of California at Los Angeles)

Proper design support for DSP systems can provide the leverage needed to realize algorithm or system development in a timely fashion. This session examines techniques, languages and tools that facilitate the design process.

Efficient VLSI Implementation Techniques for FIR Filters - Ville Eerola, Timo Husu, Eero Pajarre, and Tapani Ritoniemi (VLSI Solution Oy)

Autoscaling Assembler for the TMS 320C25 and C50 - Seehyun Kim and Wonyong Sung (Seoul National University)

Algorithm Specification in DSP Station Using Data Flow Language - Patrick Willekens, Dirk Devisch, Marc Van Canneyt, and Dominique Genin (Mentor Graphics/EDC Leuven), and Paul Conflitti (Mentor Graphics Corp.)

Programming Micro-Grained Signal Processors Using C++ - Chetana Nagendra, Raminder S. Bajwa, Paul Keltcher, Robert Michael Owens, and Mary Jane Irwin (Pennsylvania State University)

Synthesis of Practical VLSI Architectures and Chip Designs for Key DSP Functions - R.F. Woods, J.V. McCanny, D. Trainor, and Y. Hu (The Queen's University of Belfast, Department of Electrical and Electronic Engineering)